Annual Maintenance Cost Factors

"The Devil Really is in the Details"

2004 Facilities and Asset Management Conference
"*Stewardship of Federal Assets – United Commitment to Excellence*"
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Presentation Outline

- **Overview -** BLM "*Stewardship Strategy*"
- **Background -** Annual Maintenance Requirement
- **Objective** – Standardize the Annual Maintenance Process
- **Approach** – Annual Maintenance Cost Factors
- **Performance Metrics** – Internal and External Gauges of Success
- **Challenges and Lessons Learned** – Ideas and Answers
- **Summary**

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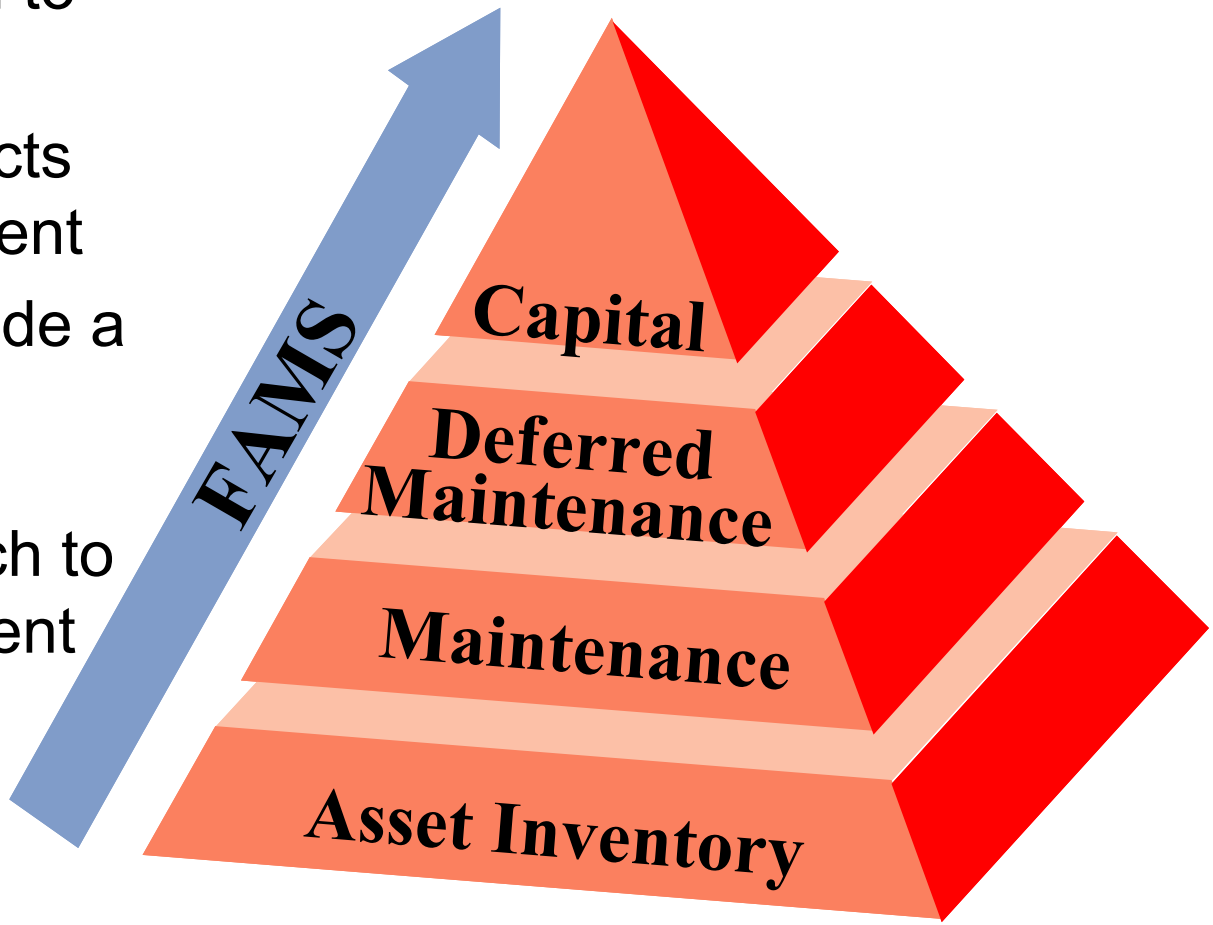
Overview - BLM "*Stewardship Strategy*"

- Strategic approach to asset stewardship
- Integrates all aspects of asset management
- Developed to provide a ***Reasonable, Consistent,*** and ***Auditable*** approach to Facility Management



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Background –Annual Maintenance

- Annual Maintenance within the BLM includes:
  - Preventive Maintenance
  - Reactive Maintenance
  - Emergency Maintenance
  - Component Renewal

- Annual Maintenance planning is designed to provide for consistent Life Cycle Management of the Bureau's assets which include:
  - 82,000 miles of Roadways
  - 2,100 Recreation Sites
  - 700 Administrative Sites
  - 800 Dams
  - 900 Bridges

Objective – Standardize The Annual Maintenance Budget Process

- Develop Annual Maintenance standards that identify the “appropriate” level of expenditure for each facility asset in order to allow the BLM to maximize the public’s investment.
- Utilize Annual Maintenance Standards as a mechanism to strategically manage the condition and performance of each facility asset through the lifecycle
  - Identifies appropriate levels of funding
  - Defines potential deferred maintenance or the consequences of less than full funding
  - Provides guidance to the field on investment levels, priorities and Bureau standards for facility Stewardship

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Approach - Existing Annual Maintenance Budget Strategies

- No basis (Budgets without Basis)
- Previous budget adjusted
- Percent of revenue
- Percent of Current Replacement Value
- Percent of CRV age adjusted
- Standard cost factors
- Projections based on “Actuals”/Forecasting

Approach – Accurate Inventory and Asset Classification

- Identify unique Asset Types that impact annual maintenance decisions
- Develop definitions and standards for each asset type
- Standardize units of measure for each asset type
- Assign a unique asset type to each asset
- Based on approach similar to methodology currently in use within Department of Defense and NASA

Approach - Example 1 Administrative Building

- **DEFINITION:** A building primarily used for office/clerical space. Ancillary functions may be included such as miscellaneous storage and vehicle parking, so long as those functions support the primary use and represent less than 50% of the building area.

- **INCLUDES:** Building and associated systems within the building walls

- **EXCLUDES:** Any items or features outside the building walls even though the items or features may be attached to and/or support the building or its functions.

Approach - Example 2 Lift Station

- **DEFINITION:** Either pre-fabricated or individually constructed tank or vault with associated pump(s) and piping for the purpose of pressurizing a sanitary or storm sewer system, or elevating sanitary or storm sewer effluent so that subsequent portion of line is gravity flow.
- **INCLUDES:**
  - Tank or vault
  - Pump(s)
  - Manholes
  - Alarm
- **EXCLUDES**:
  - Distribution systems
  - Treatment facilities
  - Lagoons
  - Storage facilities

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Approach - Example 3 Aircraft Ramp

- **DEFINITION:** An area used for parking aircraft, or moving aircraft from a storage / maintenance area to a runway or helipad.
- **INCLUDES:**
  - Windsocks
  - Pavement markings
  - Tie-downs/restraints
  - Ground clips
- **EXCLUDES:**
  - Parking Areas
  - Area Lighting
  - Access Roads (see Site Roadways)
  - Signs
  - Hangars
  - Maintenance Shops

Approach - Asset Classification Codes

Asset Classification	UOM	Annual Sustainment Requirement	Current Replacement Value	Source
Visitor Information Center	SF	$3.92	$148.00	4
Vault Toilet – Simple	QTY	$153.84	$8,385	6
Vault Toilet - Complex	QTY	$174.84	$11,425	6
Steel Bridge - Vehicular	SY	$17.09	$678.18	3
Roadway – Surfaced	SY	$0.99	$37.60	1
Fixed Wing Runway - Surfaced	SY	$1.18	$91.76	3

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Approach - Location Adjustment Factors

Location	State	Factor
Cody Field Office	Wyoming	71.2%
Eugene Field Office	Oregon	104.6%
Alaska Fire Service	Alaska	106.9%
Campbell Tract	Alaska	105.0%
Lake Havasu	Arizona	92.3%
Billings	Montana	82.6%
Grand Junction	Colorado	84.1%
Boise	Idaho	83.8%

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Approach – Direct Maintenance Cost

BUREAU OF LAND MANAGEMENT - ANNUAL MAINTENANCE BUDGET NEED SUMMARY

State: Colorado
Field Office: Field Office 1
Site: ALL

Fiscal Year: 2004
Report Date: 11/3/2003
Location Adjustment Multiplier: 1.08

Asset Type	Count	Quantity	Unit of Measure	Unit Cost Factor	Direct Maintenance Cost (Unadjusted)	Direct Maintenance Cost (Adjusted)
Building - Vault Toilet	14	252	SF	$15.61	$3,933.72	**$4,248.42**
Building - Visitors Center	2	11,200	SF	$3.82	$42,784.00	**$46,206.72**
Aircraft Ramp - Concrete	1	950	SY	$91.76	$87,172.00	**$94,145.76**
Boat Ramp-Aggregate/Grave	4	9,700	SF	$4.18	$40,546.00	**$43,789.68**
Corral-Steel Pipe or Panel	1	32,000	SF	$1.11	$35,520.00	**$38,361.60**
Emergency Power Generation-Diesel	3	3	EA	$20,000.00	$60,000.00	**$64,800.00**
Parking Lot - Concrete	2	1,200	SY	$52.95	$63,540.00	**$68,623.20**
Parking Lot - Aggregate	1	400	SY	$37.60	$15,040.00	**$16,243.20**
Roadway - Natural Surface ML3	10	18,400	SY	$18.80	$345,920.00	**$373,593.60**
Roadway - Asphalt Surface ML4	5	5,260	SY	$37.60	$197,776.00	**$213,598.08**
Sub-Total Annual Maintenance Need (Unadjusted):					$892,231.72	**$963,610.26**

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Approach – Bureau Full Cost

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Direct Maintenance Cost:		**$963,610.26**
Other Direct Maintenance Cost Multiplier:	**1.75**	**$1,686,317.95**
State Controllable Cost Multiplier:	**1.60**	**$2,698,108.72**
National Support Cost Multiplier:	**1.18**	**$3,183,768.29**
FULL BUREAU COST:		**$3,183,768.29**

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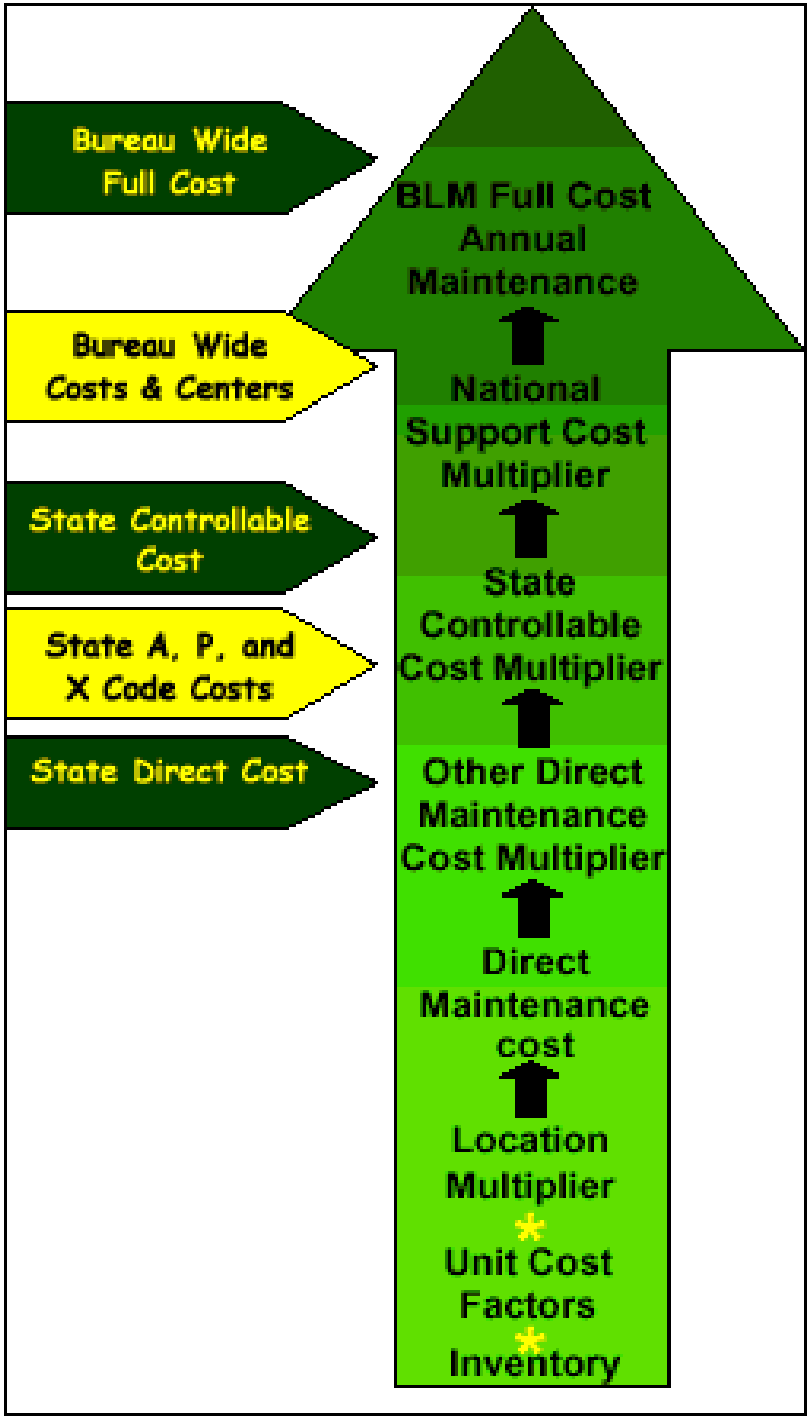
Approach – Building to "Full Cost"

- Begins with a Validated Inventory
- Utilizes Historical Financial Information to develop Multipliers
- Provides a **Reasonable, Consistent,** and **Auditable** Process



Performance Metrics

- Internal
  - “Full Cost” for Asset Stewardship
  - Maintenance standards for all assets
  - Planned versus actual maintenance funding
- External
  - Cost per Unit of Measure to maintain asset
  - Actual funding received per Unit of Measure

Challenges and Lessons Learned

- Challenges
  - Identifying and defining potential Asset Types
  - Staying "*out of the weeds*"
  - Separating Operations from Maintenance
- Lessons Learned
  - Avoid the "Arms Race" for Maintenance Funding
  - Things are not as *unique* as they seem (less variation than expected)
  - Part of the value is in the discussion

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Summary

- Unit Cost Factors provide a sound methodology for developing annual maintenance funding requirements
- Allows for consistent and equitable development of funding needs across multiple asset types and locations
- Provides “Service Level Standards” by defining appropriate levels of maintenance for each asset type
- Methodology is consistent with current budgeting practices used by Department of Defense and NASA

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Reasonable, Consistent, and Auditable

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